AMENDMENTS TO THE CLAIMS

1. (currently amended) A process for preparing a broad molecular weight polyethylene by polymerizing ethylene in the presence of a polymerization catalyst, the process comprising the following steps, in any mutual order:

   a) polymerizing ethylene monomer, optionally together with ~~one or more~~at least one first α-olefinic ~~comonomers~~comonomer having from 3 to 12 carbon atoms, in a first gas-phase reactor in the presence of a first amount of hydrogen, thereby forming an ethylene polymer;

   b) copolymerizing ethylene with ~~one or more~~at least one second α-olefinic ~~comonomers~~comonomer having from 3 to 12 carbon atoms in ~~another~~a second gas-phase reactor in the presence of ~~an~~a second amount of hydrogen ~~less than step a)~~, wherein the second amount of hydrogen is less than the first amount of hydrogen;

   where in at least one of said gas-phase reactors ~~the~~ growing polymer particles flow upward through a first polymerization zone (riser) under fast fluidization or transport conditions, leave said riser and enter a second polymerization zone (downcomer) through which they flow downward under the action of gravity, leave said downcomer and are reintroduced into the riser, thus establishing a circulation of polymer between said two polymerization zones.

2. (original) The process according to claim 1, wherein step a) is performed upstream step b).

3. (currently amended) The process according to ~~anyone of claims 1-2~~claim 1, wherein the ethylene polymer obtained from step a) has a density higher than 0.955 kg/dm^3.

4. (currently amended) The process according to ~~any of claims 1-3~~claim 1, wherein the ethylene polymer obtained from step a) has a melt flow rate MIE in the range of 10 to 400 g/10 min.

5. (original) The process according to claim 4, wherein the MIE is from 100 to 200 g/10 min.

6. (currently amended) The process according to ~~anyone of claims 1-5~~claim 1, wherein in step a) ~~the~~a hydrogen/ethylene molar ratio is comprised between 0.5 and 5.0, the ethylene monomer being comprised between 5 and 50 % by volume.

7. (currently amended) The process according to ~~anyone of claims 1-6~~claim 1, wherein ~~the~~an operating temperature in step a) is selected between 50 and 120°C.

8. (currently amended) The process according to ~~anyone of claims 1-7~~claim 1, wherein ~~the~~an operating pressure in step a) is between 0.5 and 10 MPa.

9. (original) The process according to claim 1, wherein step a) is performed in a fluidized bed reactor.

10. (currently amended) The process according to claim 1, where step a) and b) are carried out in a sequence of two gas-phase reactors in which ~~the~~ growing polymer particles flow upward through a riser under fast fluidization conditions, leave said riser and enter a downcomer through which they flow downward under the action of gravity, leave said downcomer and are reintroduced into the riser.

11. (currently amended) The process according to ~~anyone of claims 1-10~~claim 1, wherein the ethylene polymer obtained from step a) represents from 40 to 65% by weight of ~~the~~a total ethylene polymer produced in the overall process.

12. (currently amended) The process according to ~~any of claims 1-11~~claim 1, wherein the ethylene polymer and ~~the~~ entrained gas coming from step a) are passed through a solid/gas separator, thereby forming a separated polymer, and the separated polymer is fed to the reactor of step b).

13. (currently amended) The process according to ~~anyone of claims 1-12~~claim 1, wherein ~~the~~an operating temperature in step b) is in the range from 65 to 95°C.

14. (currently amended) The process according to ~~anyone of claims 1-13~~claim 1, wherein ~~the~~an operating pressure in step b) is in the range from 1.5 to 4.0 MPa.

15. (currently amended) The process according to ~~anyone of claims 1-14~~claim 1, wherein the α-~~olefin~~olefinic comonomer of step b) is selected from 1-butene, 1-pentene, 1-hexene, 4-methyl-1-pentene, 1-heptene and 1-octene.

16. (currently amended) The process according to ~~any of claims 1-15~~claim 1, wherein the second reactor of step b) is operated by establishing different conditions of monomers and H_2 concentration within said riser and said downcomer.

17. (currently amended) The process according to claim 16, wherein said different conditions are achieved by feeding at least one of a gas ~~and/or~~and a liquid mixture into said downcomer, said at least one of a gas ~~and/or~~and liquid mixture having a composition different from that of ~~the~~a gas mixture present in said riser.

18. (currently amended) The process according to ~~anyone of claims 16-17~~claim 16, wherein ~~the~~a hydrogen/ethylene molar ratio in said downcomer of step b) is comprised between 0.005 and 0.2, ~~the~~and an ethylene concentration ~~being~~is comprised from 1 to 20 % by volume.

19. (currently amended) The process according to ~~anyone of claims 16-18~~claim 16, wherein ~~the~~a comonomer concentration in said downcomer of step b) is from 0.3 to 5 % by volume based on ~~the~~a total volume of gas present in said downcomer.

20. (currently amended) The process according to ~~anyone of claims 16-19~~claim 16, wherein ~~the~~a hydrogen/ethylene molar ratio in said riser of step b) is comprised between 0.05 and 0.3, and ~~the~~an ethylene concentration being comprised from 5 to 15 % by volume

21. (currently amended) The process according to ~~anyone of claims 16-20~~claim 16, wherein ~~the~~a comonomer concentration in said riser of step b) is from 0.1 to 3.0% by volume based on ~~the~~a total volume of gas present in said riser.

22. (currently amended) ~~The process according to claims 1-21, wherein an~~An ethylene polymer ~~endowed with~~having an at least ~~a~~ tri-modal molecular weight distribution ~~is~~ obtained by a process comprising the following steps, in any mutual order:

a) polymerizing ethylene monomer, optionally together with at least one first α-olefinic comonomer having from 3 to 12 carbon atoms, in a first gas-phase reactor in the presence of a first amount of hydrogen, thereby forming an ethylene polymer;

b) copolymerizing ethylene with at least one second α-olefinic comonomer having from 3 to 12 carbon atoms in a second gas-phase reactor in the presence of a second amount of hydrogen, wherein the second amount of hydrogen is less than the first amount of hydrogen;

where in at least one of said gas-phase reactors growing polymer particles flow upward through a first polymerization zone (riser) under fast fluidization or transport conditions, leave said riser and enter a second polymerization zone (downcomer) through which they flow downward under the action of gravity, leave said downcomer and are reintroduced into the riser, thus establishing a circulation of polymer between said two polymerization zones.

23. (currently amended) ~~The process according to claim 22,~~ The ethylene polymer of claim 22 wherein said ethylene polymer has a melt index MIF in the range of 5 to 40 g/10 min and a melt index MIP in the range of 0.1 to 1 g/10 min.

24. (currently amended) ~~The process according to claims 22-24,~~ The ethylene polymer of claim 23, wherein ~~the~~a MIF/MIP ratio is in the range of 20 to 50.

25. (currently amended) ~~The process according to anyone of claims 22-25,~~ The ethylene polymer of claim 22, wherein said ethylene polymer has a density comprised between 0.935 and 0.955 kg/dm^3.